

findings to NWCG agencies and the National Fire Protection Association, per the NWCG "Safety Gram".
 This summary will not include any incriminating agency references or information identified as sensitive by the agency.

2. The SHWT will periodically review all entrapment reports, determine trends, and incorporate findings to develop specific prevention recommendations for implementation by NWCG agencies.

ENTRAPMENT INVESTIGATION ELEMENT MATRIX

I. FIRE BEHAVIOR

***Significant Contribution**

Fuels
 Weather
 Topography
 Predicted v.s. Observed

Did Not Contribute

II. ENVIRONMENTAL FACTORS

Smoke
 Temperature
 Visibility
 Slope
 Other

III. INCIDENT MANAGEMENT

Incident Objectives
 Strategy
 Tactics
 Safety Briefings/Major Concerns Addressed
 Instructions Given

IV. CONTROL MECHANISMS

Span of Control
 Communications
 Ongoing Evaluations
 "10 Standard Fire Orders/18 Watch-out Situations"

V. INVOLVED PERSONNEL PROFILES

Training/Quals./Physical Fitness
 Operational Period Length/Fatigue
 Attitudes
 Leadership
 Experience Levels

VI. EQUIPMENT

Availability
 Performance/Non-Performance
 Clothing and Equipment
 Used for Intended Purpose?

*Element items must be supported with written documentation.
 (Exhibit 1)

Entrapment Investigation Team. Ensure preparation of a roster of individuals involved in the entrapment. The roster must minimally contain their names, employing agency, genders, ages, addresses, incident position titles, and appropriate employee identification numbers.

Agency Administrator Responsibilities:

Upon notification of an entrapment or deployment, the Agency Administrator should assure that the following activities take place within 24 hours of notification:

1. Convene an Entrapment Investigation Team (EIT) to investigate the entrapment. It is recommended that the EIT be interagency in nature and should include personnel with the following skill areas:
 - a. Incident Commander or Operations Section Chief (Type I).
 - b. Fire behavior analysis, qualified in the specific fuel type.
 - c. Safety officer, with investigative expertise.
 - d. Wildfire operations, with expertise at the peer level of the person(s) directly involved.
 - e. Agency representative of involved person(s).
 - f. Employee representation (union, peer at operations level)
 - g. Fire weather meteorology.
 - h. Personal protective equipment specialist, from a lab such as the USDA-Forest Service's Missoula Technology and Development Center.
2. Instruct the EIT to arrive on scene within 24 hours.
3. Advise the Incident Management Team of the EIT's time of arrival and team composition.
4. As required by the Occupational Safety and Health Act of 1970, advise the nearest office of the Occupational Safety and Health Administration (federal or state as applicable) if the entrapment involves a fatality or the hospitalization of 3 or more personnel. Advise OSHA office that a formal investigation is being conducted by a designated Entrapment Investigation Team.
5. Arrange for a critical incident stress debriefing team for the personnel involved in the entrapment.
6. Notify the home unit agency administrator of all individuals involved in the entrapment/deployment.
7. Submit a copy of the EIT's final report to the NWCG Safety and Health Working Team within 60 days of receipt from the EIT.

Entrapment Investigation Team Responsibilities:

1. The EIT will conduct the investigation, identify causal factors and list findings for the entrapment situation. Recommendations for corrective actions should be included in the letter of transmittal.
2. The EIT will brief the Agency Administrator and the Incident Commander of their preliminary findings prior to leaving the incident.
3. Within 30 days of the EIT's dispatch, the EIT's final report and recommendations for corrective actions will be submitted to the Agency Administrator.

NWCG Safety and Health Working Team (SHWT) Responsibilities:

1. Within 30 days of receipt of each entrapment report, the SHWT will distribute a summary of the applicable

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V. INVOLVED PERSONNEL PROFILES

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Availability
Performance/Non-performance
Clothing and Equipment
Used for Intended Purpose?
Etc.

MANAGEMENT AND COMMAND RESPONSIBILITIES: Incident Commander Responsibilities (in addition to those identified in ICS 410-1, "Fireline Handbook"): Upon notification of an entrapment the Incident Commander should consider:

1. Removing involved personnel from the fireline, ensuring appropriate medical attention as necessary.
When hospitalization or fatalities occur, relevant facilities and organizations should be advised to preserve all involved personnel's protective clothing and equipment.
2. Ensuring that the entrapment or deployment scene is secured and that all pertinent evidentiary items are secured (in place if possible), particularly fire shelters and personal protective equipment as required by the Occupational Safety and Health Act.
3. Immediately notifying the Agency Administrator and providing details on the incident status summary (ICS-209).
4. Initiating a preliminary investigation of the entrapment or deployment to determine the facts of the entrapment, insofar as possible. The initial investigation will be completed within 24 hours of the entrapment.
5. Relieving involved supervisors from fireline duty until the preliminary investigation has been completed.
6. Ensuring that personnel and supervisors are readily available for interviews by the Entrapment Investigation Team (EIT, below defined). "Available" means present at the incident base or nearby R&R center.
7. As soon as possible, providing the results of the Incident Commander's preliminary investigation to the

FIRE ENTRAPMENT INVESTIGATION AND REVIEW GUIDELINES

PROBLEM STATEMENT:

Since 1976, over 300 shelter deployments and 30 entrapment fatalities have been documented in wildfire suppression operations. In reviewing available injury and fatality investigation reports, it is clear that there are common circumstances that are causal factors throughout the entire wildland fire management community chain of command.

NWCG recognizes that some agencies do an outstanding job of investigating entrapments, implementing corrective recommendations, and distributing findings. However, in some cases, improvements could be made by implementing and following clear investigation criteria, using consistent entrapment review elements, and by wide distribution of findings and recommendations.

These key improvements would noticeably further the prevention of these tragedies and near-miss incidents; without correction of these deficiencies, fire behavior-related injuries and fatalities will continue to occur.

STATEMENT OF PURPOSE:

NWCG hereby recommends guidelines for investigation and review of fire entrapment situations. These guidelines are not intended to replace agency-specific investigation protocol.

The intended purpose for developing these guidelines is to provide standardized data to assist in identifying and analyzing trends. From those trend analyses, preventative recommendations may be made.

These investigation and review guidelines will:

- a. Outline investigation elements, and
- b. Clarify management and command responsibilities.

Through the NWCG Safety and Health Working Team, the review process will:

- c. Provide an effective distribution mechanism of findings, and
- d. Develop a framework for implementation of recommendations.

DEFINITIONS:

Agency Administrator: That lead employee having responsibility for management of land and/or resources on an organizational unit, and having accountability for overall results of management actions.

Entrapment: A situation where personnel are unexpectedly caught in a fire behavior-related, life-threatening position where planned escape routes or safety zones are absent, inadequate, or have been compromised. An entrapment may or may not include deployment of a fire shelter for its intended purpose. These situations may or may not result in injury. They include "near misses".

ENTRAPMENT INVESTIGATION ELEMENTS:

The following elements most commonly contribute to entrapment situations. As a minimum, each of these elements should be addressed in an entrapment investigation and subsequent report, even if the investigation indicates that the element did not contribute to the entrapment. Exhibit I, "Entrapment Investigation Element Matrix", may be utilized to expedite the process.

I. FIRE BEHAVIOR



NATIONAL WILDFIRE COORDINATING GROUP

Memorandum

July 27, 1993

To: NWCG Members

From: Chair, NWCG

Subject: Fire Entrapment Investigation and Review Guidelines

At the January, 1993 meeting, NWCG approved the Fire Entrapment Investigation and Review Guidelines prepared by the Safety and Health Working Team, subject to some editorial changes. Those changes have been completed as attached. The intent of the Guidelines is to obtain standardized data to assist in identifying trends and determining preventative measures for the benefit of all. They are not intended to replace agency protocol or to compromise any agency prerogatives.

NWCG recommends that each member review existing direction regarding investigation procedures and subsequent sharing of information resulting from investigation of fire entrapments, then incorporate the guidelines below to the extent possible.

These Guidelines recommend:

- A standard interagency investigation process, procedures and composition.
- Interagency participation on investigation teams.
- Identified channels to communicate findings and mitigation measures.

These guidelines recommend the establishment of Entrapment Investigation Teams. Because of the short time frames to organize such Teams, potential members should be pre-determined by the various Geographic Coordination Groups and reflect interagency composition so far as practicable.

The guidelines also indicate that the Safety and Health Working Team will review each entrapment report and distribute a "sanitized" summary of applicable findings and recommendations to NWCG and the National Fire Protection Association within thirty days of receipt of the investigation report from the appropriate agency administrator, via the "SafetyGram".

Portions of these guidelines, specifically the "Management and Command Responsibilities" and the "Entrapment Investigation Element Matrix", will be added to Chapter 4 (Firefighter Safety) of the NWCG 410-1 "Fireline Handbook" upon its next revision.

NWCG feels that these guidelines will be a viable and useful tool for all participating members.

Elmer Hurd